



St. Columba's Catholic Primary School

Maths Policy

Reviewed March 2018

Introduction

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at St Columba's Catholic Primary School. The policy has been drawn up as a result of staff discussion, parental consultation and has the full agreement of the Governing body. The implementation of this policy is the responsibility of all teaching staff.

Rationale

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them. Mathematics provides pupils with a means of making sense of the world in which they live. Building on experiences, it encourages thinking and reasoning skills to grow. It embraces natural curiosity and develops the confidence to tackle situations that arise in mathematics and other curriculum areas.

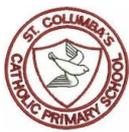
Aims

We aim to provide all pupils with a mathematics curriculum which will produce individuals who are literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

At St. Columba's Catholic Primary School, we aim for each child to:

1. Have a positive attitude towards mathematics.
2. Have self-confidence in their ability to deal with mathematics.
3. Be able to work systematically, co-operatively and with perseverance.
4. Be able to think logically and independently.
5. Experience a sense of achievement regardless of age and ability.
6. Understand the appropriate underlying skills, concepts and knowledge of number, measurement, shape, space and handling data.
7. Be able to apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of school.
8. Understand and appreciate pattern and relationships in mathematics.

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9. Be able to communicate with peers and adults, ideas, experiences, questions, clearly and fluently, using the appropriate mathematical language.
10. Be able to explore problems using the appropriate strategies, predictions and deductions.
11. Have equality of opportunity regardless of race, gender or ability.
12. Be aware of the uses of mathematics beyond the classroom.
13. Encourage the use of mental calculations and efficient strategies to work out the answers.

For parents to:

1. Be actively involved in their children's mathematical learning both in school and at home. (Singapore Maths videos on website for parents)
2. Understand and support the school's mathematics and homework policy and scheme of work.

Provision

From September 2016, St Columba's Catholic Primary School, has been using the Singapore approach to teach mathematics in Y4, Y5, Y6. This was introduced into all year groups from September 2017. The Singapore method of teaching mathematics places great emphasis on: problem solving and comprehension, allowing students to relate what they learn to prior knowledge; careful scaffolding of core competencies of: visualisation (as a platform for comprehension), mental strategies (to develop decision making abilities) and pattern recognition (to support the ability to make connections and generalise) and more emphasis on the foundations for learning and not on the content itself so students learn to think mathematically as opposed to merely reciting formulas or procedures.

Foundation

In early years, the curriculum is guided by the Early Learning Goals, which mirror the Reception Learning Objectives in the Renewed Framework and guidance provided in the Development Matters document.

Organisation of Teaching and Learning

In Key Stage 1, mathematics lessons are held on a daily basis and last for approximately 50 minutes. Children are taught in mixed ability classes. In Key Stage 2, the daily maths lessons last for at least one hour. The children are taught in mixed ability classes.

Singapore Maths Lesson Structure:

- Explore - At the start of the session children are presented with a problem. Using manipulative on the table, children try and solve the problem. Children offer their methods to the teacher. The teacher models all methods on the board.



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- Maths Mutterings - Children choose their preferred method to journal in their books.
- Reflect and practise - Children are given the opportunity to review other methods given by their peers. Through guided practice, children become familiar with using their new skills to answer familiar problems.
- Apply (Workbook/Challenge) - Children have the opportunity to use their new skills to answer an unfamiliar problem.

Planning

Singapore Maths - Each member of teaching staff plans their weekly Maths lessons using Notebook/PowerPoint presentation, which requires them to plan in detail, each part of the Singapore lesson structure (outlined above). Using the online planning guide, teachers can receive guidance on: which methods children are most likely to come up with; questions to help promote deeper thinking; ideas to extend the learning of able pupils and also how to cater for less able children.

Recording Work

All maths work is completed in pencil and there is an agreed format to the setting out of maths work. **The Singapore Approach** - All children work in a designated maths book from Year 1 onwards. All are expected to note down and practice their preferred method to answer the problems in the Maths Muttering section of the lesson. Children then go on to a variety of hands on activities which aids discussion. All children have a Singapore Workbook, which has worksheets to support each lesson, where children can demonstrate their new skills. During this activity children may choose to use a different method. All children should be encouraged to explain their workings out and give reasons for their answers. Individual white boards are also used to record answers during mental / oral activities.

Assessment and Record Keeping

Assessment is regarded as an integral part of teaching and learning and is a continuous process. At St Columba's Catholic Primary School, we are continually assessing our pupils and recording their progress, allowing us to match the correct level of work to the needs of the pupils and to identify children who are in need of additional / targeted support. Assessment is carried out on three levels:

Short Term Assessment

The Singapore approach to teaching mathematics is structure into chapters. At the end of each chapter, children complete the post learning challenge (end of chapter assessment) to demonstrate the progress they have made. Teachers use Class Track to record the programmes of study covered and attained.

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Medium Term Assessments

We make medium-term assessments to measure progress against the key objectives (Otrack), and to help us plan the next unit of work.

Long Term Assessment

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests (NFER) and teacher assessments. We use the national tests for children in Year 2 and Year 6, plus the NFER tests for children at the beginning and end of Years 3, 4 and 5.

The children are also encouraged to self and peer assess against learning outcomes and success criteria.

Marking

Work is marked on a regular basis and this includes self-marking of the work in KS2, where possible with the child concerned. This informs part of the on-going teacher assessment. Comments are to be made on the child's book only when there is a clear misunderstanding using think pink (school marking policy). When a child has exceeded teacher expectations, a challenge will be set, which will focus on deepening the child's understanding rather than accelerating their learning. See St Columba's Catholic Primary School Marking and Feedback Policy for more detail.

Target Setting

Children are given a basic skills target each half term, which when achieved is stuck in the children's targets sheet at the back of their books.

Find and Fix Intervention

Due to the nature of the Singapore approach and the emphasis placed on the children becoming independent learners, teachers and teaching assistants are able to conduct more thorough assessment of children's understanding. Sessions have been timetabled in the afternoons, for teaching assistants to revisit objectives which children have found challenging. These sessions will focus on children who cannot confidently use method 1 or to move children, who are over reliant on method 1, on to a more efficient method.

Cross-curricular links

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Mathematics is taught mainly as a separate subject but every effort is made to link maths with other areas of the curriculum. Opportunities will be sought to draw mathematical experiences out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts.

Resources

A full audit of Maths resources was conducted in July 2016. Resources have been purchased to support the teaching of the Singapore approach. Everyday basic resources are stored in each classroom while topic specific resources e.g. scales and weights are stored centrally. Singapore Textbooks and Workbooks have been purchased for each class.

Reporting to parents

Parents are given the opportunity to sign up to Class DoJo where they can receive more frequent updates about their child's progress.

All parents receive an annual written report on which there is a summary of their child's efforts and progress in mathematics over the year.

At the end of Key Stage 1 and Key Stage 2 each pupil's level of achievement against national standards is included as part of their annual written report.

Parental Involvement

At St Columba's Catholic Primary School, we encourage parents to be involved by:

- Inviting them into school twice yearly to discuss the progress of their child.
- Inviting parents into school in the summer term to discuss the yearly report.
- Holding workshops for parents e.g. focusing on the teaching of mathematical calculations (KS2).
- We have also invited the parents in to discuss how they use Maths in the jobs.

Equal Opportunities

As a staff we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and SEN, both in our teaching attitudes and in the published materials we use with our pupils.

Special Educational Needs

Teachers will aim to include all pupils fully in their daily mathematics lessons. Teachers will differentiate to meet the needs of such pupils and use Teaching Assistants to support such pupils where appropriate. However a pupil whose difficulties are severe or complex may need to be supported with an individualised programme.

More Able Pupils

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More able pupils will be taught with their own class and stretched through differentiated work and extra challenges. When working with the whole class, teachers will direct higher order questions to the more able.

Information and Communication Technology

ICT is used in various ways to support teaching and motivate children's learning. Many sources of ICT are used including; various mathematical software programmes, ITPs and many Smart board resources from the National Whiteboard Association.

Homework

Where appropriate teachers set homework for pupils in order to consolidate work taught in a lesson or in preparation for a future lesson. Not all homework is written work and pupils are encouraged to continually practise their mental/oral skills, in particularly learning times tables.

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